

<b>PRE-APPEAL BRIEF REQUEST FOR REVIEW</b>		Docket Number <b>Q88366</b>	
Mail Stop AF Commissioner for Patents P.O. Box 1450 Alexandria, VA 22313-1450	Application Number <b>10/537,493</b>	Filed <b>June 3, 2005</b>	
	First Named Inventor <b>Hiroshi HORIUCHI</b>		
	Art Unit <b>1794</b>	Examiner <b>Hamid R. Badr</b>	
<p style="text-align: center;">WASHINGTON DC SUGHRUE/265550</p> <p style="text-align: center;"><b>65565</b></p> <p style="text-align: center;">CUSTOMER NUMBER</p>			
<p>Applicant requests review of the final rejection in the above-identified application. No amendments are being filed with this request.</p> <p>This request is being filed with a notice of appeal</p> <p>The review is requested for the reasons(s) stated on the attached sheet(s). Note: No more than five (5) pages may be provided.</p> <p><input checked="" type="checkbox"/> I am an attorney or agent of record.</p> <p>Registration number    <u>53,892</u></p> <p style="text-align: right;"><u>/Sunhee Lee/</u> Signature</p> <p style="text-align: right;"><u>Sunhee Lee</u> Typed or printed name</p> <p style="text-align: right;"><u>(202) 293-7060</u> Telephone number</p> <p style="text-align: right;"><u>March 18, 2010</u> Date</p>			

**PATENT APPLICATION**

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re application of

Docket No: Q88366

Hiroshi HORIUCHI, et al.

Appln. No.: 10/537,493

Group Art Unit: 1794

Confirmation No.: 4639

Examiner: Hamid R. Badr

Filed: June 3, 2005

For: METHOD FOR PRODUCING FERMENTED MILK AND FERMENTED MILK

**PRE-APPEAL BRIEF REQUEST FOR REVIEW**

**MAIL STOP AF - PATENTS**

Commissioner for Patents

P.O. Box 1450

Alexandria, VA 22313-1450

Sir:

Pursuant to the Pre-Appeal Brief Conference Pilot Program, and further to the Examiner's Final Office Action dated January 6, 2010, Applicant files this Pre-Appeal Brief Request for Review. This Request is also accompanied by the filing of a Notice of Appeal.

Applicant turns now to the rejections at issue:

**Claims 5-6 and 8-12 were rejected under 35 U.S.C. 103(a) as allegedly being unpatentable over Castberg et al. (US 5,453,286 [5,453,256]; hereinafter R1) in view of Kamiya (EP 1 082 907; hereinafter R2).**

Independent claim 5 is directed to a method for producing fermented milk, which comprises reducing the concentration of dissolved oxygen in a mixture comprising milk at the start of fermentation to 5 ppm or less by substituting the dissolved oxygen with an inert gas

selected from the group of nitrogen, argon, or helium gas; and carrying out fermentation at a fermentation temperature of from 30°C to 37°C.

R1 teaches a method of converting milk or pasteurized milk into a fermented milk, which comprises high-temperature heat treatment of milk or pasteurized milk, followed by carbonation of the heat-treated milk with CO<sub>2</sub> gas, and starter culture is added to the carbonated milk. R1 requires heat treatment of milk or pasteurized milk before carbonation. Col. 3, lines 45-66. R1 also requires CO<sub>2</sub> gas continuously present in the milk (col. 4, lines 34-47) during fermentation and emphasizes the importance thereof in terms of volatile aroma compounds (col. 6, lines 43-62), balance and total viable counts of useful bacteria (col. 6, line 63-col. 7, line 5), sensory evaluation, and firmness of the produced yogurt. *See Examples.*

The Examiner admitted that R1 fails to teach the dissolved oxygen concentration in the milk at the time of start of fermentation and fails to teach the claimed step of substituting the dissolved oxygen with an inert gas to reach the recited concentration of dissolved oxygen.

R2 teaches a method of reducing smell generation during sterilization of milk by reducing dissolved oxygen in milk using inert gas. R2 requires replacing the dissolved oxygen in milk with N<sub>2</sub> before sterilizing milk. The Examiner relies on R2 as teaching the replacement of dissolved oxygen with N<sub>2</sub>.

The Examiner takes the position that it would have been obvious to one of ordinary skill in the art to modify R1 and adopt the teachings of R2 to replace the CO<sub>2</sub> used in R1 process with nitrogen of R2 to reduce the dissolved oxygen in the milk medium to accelerate the growth of the starter culture and hence reduce the incubation time as presently claimed.

**There is no motivation to replace CO<sub>2</sub> used in R1 with any other gases.**

A mere fact that the references teach that all aspects of the claimed invention were individually known in the art is not sufficient to establish a prima facie case of obviousness without some objective reason to combine the teachings of the references. *Ex parte Levengood*, 28 USPQ2d 1300 (Bd. Pat. App. & Inter. 1993).

As discussed above, R1 requires the carbonation be conducted after heat treatment of milk or pasteurized milk. R1 further requires the *continuous presence of saturated CO<sub>2</sub> gas in the milk* during fermentation to attain its desired goal. Therefore, there is no reason why one skilled in the art would have motivated to replace CO<sub>2</sub> of R1 with other gases. Such replacement would fail to attain the desired results, according to R1.

On the other hand, R2 requires the dissolved oxygen be removed before sterilization. R2 is completely silent on the dissolved oxygen concentration in milk at start or during the fermentation. Also, the problem to be solved by R2 is totally different from the problem to be solved by R1, as discussed above. Therefore, there is no motivation or suggestion for one skilled in the art to replace CO<sub>2</sub> used in R1 process with N<sub>2</sub> used in R2 process.

**The Claimed Method Shows Unexpectedly Superior Effects**

Further, the superior results of the present invention would not have been predictable to one of ordinary skill in the art in view of the teachings of R1 and R2.

As shown in the executed Declaration by Mr. Horiuchi, which was submitted on June 17, 2009, the claimed method shows unexpected results for producing fermented milk with superior properties.

As can be seen in the Rule 132 Declaration, one Additional Experiment and one Additional Comparative Experiment were prepared. The Additional Experiment was conducted under the conditions according to the present invention, and in particular, the oxygen was substituted with nitrogen. The Additional Comparative Experiment was conducted in the same manner as the Additional Experiment, except that carbon dioxide was used instead of nitrogen to substitute the oxygen. The organoleptic properties of the fermented products of the Additional Experiment and Additional Comparative Experiment were measured and compared. The Rule 132 Declaration shows the unexpected effects of the invention in commensurate with the scope of the claimed subject matter.

**Claims 5-6, 8-12 and 14-15 were rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Castberg (R1) in view of WO-02248470 (hereinafter R3).**

The Examiner admitted that R1 is silent as to the dissolved oxygen concentration and how it can be monitored using an inert gas, but the Examiner relies on R3 to teach this feature of claims 5-6, 8-12 and 14-15.

As discussed above, R1 fails to teach the claimed dissolved oxygen concentration as recited in independent claim 5. R3 is directed to a ferment activator based on lactic acid bacteria and method for preparing a dairy product using such activator. The ferment activator comprises a nitrogenous substance and a buffer system capable of maintaining the activity pH of the lactic acid bacteria with which said activator is to be associated at a value ranging between 5 and 7, and free of added sugar(s) capable of being metabolized by said lactic acid bacteria. (See Abstract). Step (i) of preparing a milk product requires bringing of the ferment into contact with the claimed

activator in a sealed reservoir. The temperature of the aqueous medium on its arrival in the sealed reservoir is between 50°C and 15°C, preferably between 8°C and 12°C. An internal stirring system is inside the sealed reservoir and the stirring allows the suspension of the ferments and of the activator in the aqueous medium. A gas is advantageously used which is not involved in respiration and/or oxidation in the microorganisms, the ferments and the bacteria. The injected gas is a chemically and biologically inert gas, preferably argon, more particularly nitrogen or carbon dioxide. (See column 4, paragraphs [0075] - [0083]).

However, R3 is silent as to a dissolved oxygen concentration as recited in instant claim 1. R3 fails to cure the deficiency of R1. There is no teaching or suggestion within the either one of the cited references R1 and R3 for a specific range of the concentration of dissolved oxygen to be 5 ppm or less of, except for impermissible hindsight.

### Conclusion

For at least the above reasons, Appellants submit that the Examiner has failed to establish a *prima facie* case of obviousness. Thus, the present claims 5, 6, 8-12, 14 and 15 are patentable over R1 in view of R2 or R3. Accordingly, Appellants respectfully request withdrawal of the final rejections under 35 U.S.C. § 103(a) upon review of the Pre-Appeal Panel.

SUGHRUE MION, PLLC  
Telephone: (202) 293-7060  
Facsimile: (202) 293-7860  
WASHINGTON DC SUGHRUE/265550  
**65565**  
CUSTOMER NUMBER

Date: March 18, 2010

Respectfully submitted,  
/Sunhee Lee/

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Sunhee Lee  
Registration No. 53,892

/Yan Lan/

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Yan Lan  
Registration No. 50,214